

Name and Manufacturer	Platform	Age Indications	Dosages	Additional primary dose for people with immunosuppression	Description	Storage and shelf-life Temperature	Approval	Efficacy
Pfizer-BioNTech COVID-19 Vaccine <i>BNT162b2/COMIRNATY Tozinameran (INN)</i> ^{1,2,3,4,8,C}	mRNA	≥5 years	2 doses, 3 weeks apart	1 dose, after 4 weeks	Suspension for IM injection	2 to 8°C for 5 days 6 months at -80 to -60°C	EUA (FDA)	95%
<i>*Pfizer-BioNTech COVID-19 Booster</i> ³		≥5 years	<i>Full dose at least 5 months after completion of primary series</i>					
Moderna COVID-19 Vaccine <i>mRNA-1273</i> ^{2,4,5,6,7,A,C,D}	mRNA	≥18 years	2 doses, 4 weeks apart	1 dose, after 4 weeks	Suspension for IM injection	2 to 8°C for 30 days 7 months at -25 to -15°C	EUA (FDA)	94%
<i>*Moderna COVID-19 Booster</i> ⁴		≥18 years	<i>Half dose at least 6 months after completion of primary series</i>					
Janssen COVID-19 Vaccine (Johnson & Johnson) <i>Ad26.COV2.S</i> ^{2,8,9}	Recombinant, replication-incompetent adenovirus type 26 (Ad26) vectored vaccine encoding the (SARS-CoV-2) Spike (S) protein	≥18 years	1 dose	1 mRNA dose, after 4 weeks	Suspension for IM injection	3 months at at 2 to 8°C 24 months at -25 to -15°C	EUA (FDA)	67%
<i>*Janssen (Johnson & Johnson) COVID-19 Booster</i> ⁹		≥18 years	<i>Full dose at least 2 months after completion of primary series</i>					
Oxford/AstraZeneca COVID-19 Vaccine <i>AZD1222</i> ¹⁰	Recombinant ChAdOx1 adenoviral vector encoding the spike protein antigen of the SARS-CoV-2.	≥18 years	2 doses, interval of 8 to 12 weeks		Suspension for IM injection	6 months at 2 to 8°C	EUA (FDA)	70%
Covishield (Serum Institute of India) <i>ChAdOx1_nCoV-19</i> ^{11,12}	Recombinant ChAdOx1 adenoviral vector encoding the spike protein antigen of the SARS-CoV-2.	≥18 years	2 doses, interval of 4 to 6 weeks		Suspension for IM injection	6 months at 2 to 8°C	EUA (FDA)	70%
<i>*A single booster dose of Pfizer, Moderna (half dose) or Janssen may be administered as a heterologous booster dose following completion of primary vaccination with a different COVID-19 vaccine.⁹</i>								

Abbreviations: EOI: Expression of Interest (EOI). EUA = Emergency Use Authorization; CMC = Chemistry, Manufacturing and Control; FDA = United States Food and Drug Administration; IM = Intramuscular

Note : EOI. Expression of Interest (EOI). The first call for submission of EOI is open to candidate vaccines in phase IIb/III clinical trials that are expected to be submitted for evaluation by a National Regulatory Authority within the next 6 months. Priority will be given to candidate vaccines that are expected to meet all or most of the WHO published TPP characteristics

(<https://www.who.int/publications/m/item/who-target-product-profiles-for-covid-19-vaccines>). **EUA.** Emergency Use Authorization. The Emergency Use Authorization (EUA) authority allows FDA to help strengthen the nation's public health protections against chemical, biological, radiological, and nuclear (CBRN) threats including infectious diseases, by facilitating the availability and use of medical countermeasures (MCMs) needed during public health emergencies. **CMC.** Chemistry, manufacturing and control.

Clinical trials which include children are noted by letters.

References

¹ Comirnaty, INN-COVID-19 mRNA Vaccine (nucleoside modified). European Medicines Agency. 2021; Available from: https://www.ema.europa.eu/en/documents/assessment-report/comirnaty-epar-public-assessment-report_en.pdf

² Allen I. Storage requirements for each COVID-19 Vaccine. Specialist Pharmacy Service. 2021; Available from: <https://www.sps.nhs.uk/articles/storage-requirements-for-each-covid-19-vaccine/>

^A McNamara D. Children and COVID-19 Vaccine Trials: What to Consider. Medscape. 2021; Available from: <https://www.medscape.com/viewarticle/949165>

^B Lovelace B. Pfizer begins Covid vaccine trial on infants and young kids. CNBC. 2021; Available from: <https://www.cnbc.com/2021/03/25/covid-vaccine-pfizer-begins-trial-on-infants-and-young-kids.html>

^C Cross R. COVID-19 vaccine trials for kids ramp up. Chemical & Engineering News. 2021; Available from: <https://cen.acs.org/pharmaceuticals/vaccines/COVID-19-vaccine-trials-kids/99/i10>

^D A Study to Evaluate Safety and Effectiveness of mRNA-1273 Vaccine in Healthy Children Between 6 Months of Age and Less Than 12 Years of Age; Available from: <https://clinicaltrials.gov/ct2/show/NCT04796896>

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- ³ U.S. Food and Drug Administration. Comirnaty and Pfizer-BioNTech COVID-19 Vaccine. 2022. Available from: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/comirnaty-and-pfizer-biontech-covid-19-vaccine>
- ⁴ U.S. Food and Drug Administration. Spikevax and Moderna COVID-19 Vaccine. 2022. Available from: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/spikevax-and-moderna-covid-19-vaccine>
- ⁵ Moderna mRNA-1273, COVID-19 vaccine. World Health Organization. 2021; Available from: [https://www.who.int/publications/m/item/moderna-covid-19-vaccine-\(mrna-1273\)](https://www.who.int/publications/m/item/moderna-covid-19-vaccine-(mrna-1273))
- ⁶ Baden LR, El Sahly HM, Essink B, Kotloff K, Frey S, Novak R, et al. Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine. N Engl J Med. 2020 Dec 30;384(5):403–16. Available from: <https://doi.org/10.1056/NEJMoa2035389>
- ⁷ Safety and Immunogenicity Study of 2019-nCoV Vaccine (mRNA-1273) for Prophylaxis of SARS-CoV-2 Infection (COVID-19). Clinicaltrials.gov. 2021; Available from: <https://clinicaltrials.gov/ct2/show/NCT04283461>
- ⁸ U.S. Food and Drug Administration. Janssen COVID-19 Vaccine. 2022. Available from: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/janssen-covid-19-vaccine>
- ⁹ Centers for Disease Control and Prevention. COVID-19 Vaccines for Moderately to Severely Immunocompromised People. 2022. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/immuno.html>
- ¹⁰ Villafana T. AstraZeneca COVID-19 Vaccine (AZD1222). CDC. 2021; Available from: <https://extranet.who.int/pqweb/vaccines/who-recommendation-janssen-cilag-international-nv-belgium-covid-19-vaccine-ad26cov2-s>
- ¹¹ ChAdOx1 nCoV-19 Corona Virus Vaccine (Recombinant) COVISHIELD™. Serum Institute of India. 2021; Available from: https://www.seruminstitute.com/product_covishield.php
- ¹² WHO recommendation Serum Institute of India Pvt Ltd - COVID-19 Vaccine (ChAdOx1-S [recombinant]) - COVISHIELD™. 2021; Available from: https://extranet.who.int/pqweb/sites/default/files/documents/COVISHIELD_TAG_REPORT_EULvaccine.pdf